

## CCCS Pathway

Course (Outlines)	Student Learning Outcomes
<p><b><u>CS/IS 101 (5 Units)</u></b>  <b>INTRODUCTION TO COMPUTER AND INFORMATION SYSTEMS</b>  <b>Recommended Preparation: ENGL 100, CABOT 105, or ESL 151.</b></p> <p>Total In-Class Hours: 90.00 &amp;            Total Out-of-Class Hours: 180.00</p>	<ol style="list-style-type: none"> <li>1. Describe information systems concepts and how rapid changes in technology affect organizations;</li> <li>2. Solve practical business problems with exercises in Internet technologies, spreadsheet development and database software.</li> <li>3. Describe ethical, legal, privacy and security concerns associated with information systems.</li> </ol>
<p><b><u>CS/IS 172 (4 Units)</u></b>  <b>UNIX/LINUX OPERATING SYSTEM</b>  <b>Recommended Preparation: CS/IS 135 or 139, or equivalent</b></p> <p>Total In-Class Hours: 72.00            Total Out-of-Class Hours: 144.00</p>	<ol style="list-style-type: none"> <li>1. Describe the file system layout of UNIX</li> <li>2. Describe shell programs and be able to use Bourne shell and C-shell</li> <li>3. Explain the advantages and disadvantages of UNIX for organizations</li> </ol>
<p><b><u>CS/IS 112 (3 Units)</u></b>  <b>INTRODUCTION TO PROGRAMMING USING JAVA</b>  <b>Recommended Preparation: CS/IS 101 or equivalent.</b></p> <p>Total In-Class Hours: 90.00            Total Out-of-Class Hours: 72.00</p>	<ol style="list-style-type: none"> <li>1. Demonstrate sound techniques for designing, developing, and documenting well-structured programs using software-engineering principles;</li> <li>2. Apply problem-solving skills that will provide a foundation for more advanced programming courses using an object-oriented programming methodology;</li> <li>3. Implement basic programming logic, including declaring variables, arithmetic, decisions, and iterative loops;</li> </ol>
<p><b><u>CS/IS 190 (3 Units)</u></b>  <b>INTRODUCTION TO COMPUTER NETWORKS</b>  <b>Recommended Preparation: CS/IS 101 or equivalent.</b></p> <p>Total In-Class Hours: 90.00            Total Out-of-Class Hours: 72.00</p>	<ol style="list-style-type: none"> <li>1. Utilize the OSI networking model to troubleshoot common network issues;</li> <li>2. Explain the Transmission Control Protocol and Internet Protocol addressing systems.</li> <li>3. Demonstrate ability to create a network, test a network, and troubleshoot network;</li> </ol>
<p><b><u>CS/IS 151 (3 Units)</u></b>  <b>PYTHON PROGRAMMING</b>  <b>Recommended Preparation: CS/IS 112 or equivalent.</b></p> <p>Total In-Class Hours: 54.00            Total Out-of-Class Hours: 108.00</p>	<ol style="list-style-type: none"> <li>1. Explain, recognize and describe Python programming commands and code;</li> <li>2. Create intermediate level object-oriented Python code;</li> <li>3. Describe and implement basic graphical user interface programs in Python.</li> </ol>
<p><b><u>CS/IS 240 (3 Units)</u></b>  <b>CLOUD COMPUTING -FUNDAMENTALS</b>  <b>Recommended Preparation: CS/IS 190 and CS/IS 197.</b></p> <p>Total In-Class Hours: 90.00            Total Out-of-Class Hours: 72.00</p>	<ol style="list-style-type: none"> <li>1. Describe cloud services offered by different cloud providers</li> <li>2. Utilize cloud services offered by different cloud providers</li> </ol>
<p><b><u>CS/IS 135 (3 Units)</u></b>  <b>PROGRAMMING IN C/C++</b>  <b>Prerequisite: CS/IS 112 or equivalent.</b></p> <p>Total In-Class Hours: 90.00            Total Out-of-Class Hours: 72.00</p>	<ol style="list-style-type: none"> <li>1. Implement object-oriented programming concepts and object-oriented design;</li> <li>2. Demonstrate an ability to design, code, and debug basic object-based programs and procedural programs;</li> <li>3. Utilize objects, pointers, and structures to program in the C++ language.</li> </ol>
<p><b><u>CS/IS 241 (3 Units)</u></b>  <b>CLOUD COMPUTING - DATABASES ESSENTIALS</b>  <b>Recommended Preparation: CS/IS 240.</b></p> <p>Total In-Class Hours: 90.00            Total Out-of-Class Hours: 72.00</p>	<ol style="list-style-type: none"> <li>1. Explain the design principles that reduce redundancy and increase performance.</li> <li>2. Describe the use of a database management system language in the cloud</li> </ol>